

Work Order ID 144558

April 21, 2016 9:13:29 AM

144558

BELL May 10th

Page 1

Item ID: D412-786-021

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Hard Point Wire Strike and Strake Compatible

Stop *NS2*

Start Date: 4/29/2016 Start Qty: 2.00 *2*

Cust Item ID:

Required Date: 5/10/2016 Req'd Qty: 2.00 *2*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: APR 21 2016

Tooling:

Date:

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D412-786-1	C

DAS
6
9-89

Label

MAY 04 2016

100

Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and create labels per PPP D412-786-021 chg001

2 DAS
27
9-89

MAY 11 2016

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

2 DAS
6
9-89

MAY 04 2016

DAS
28
9-89

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.06

Quality Control

2 DAS
27
9-89

MAY 11 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

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Item ID: D412-786-021

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Hard Point Wire Strike and Strake Compatible

Stop ***NS2***Start Date: 4/29/2016 Start Qty: 2.00 ***2***

Cust Item ID:

Required Date: 5/10/2016 Req'd Qty: 2.00 ***2***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-786-021								
	Location: <u>1X sold</u>								
	PPP Rev: <u>1X 79028</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.20							
Quality Control									

2X DAS
28 MAY 11 2016
9-89

MC5 MAY 11 2016

MC5 MAY 11 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		☐ OTHER : _____			

Picklist Print

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Page 1

Work Order ID: 144558

144558

Parent Item: D412-786-021

D412-786-021

Parent Item Name: Hard Point Wire Strike and Strake Compatible

Start Date: 4/29/2016

Required Date: 5/10/2016

Start Qty: 2.00

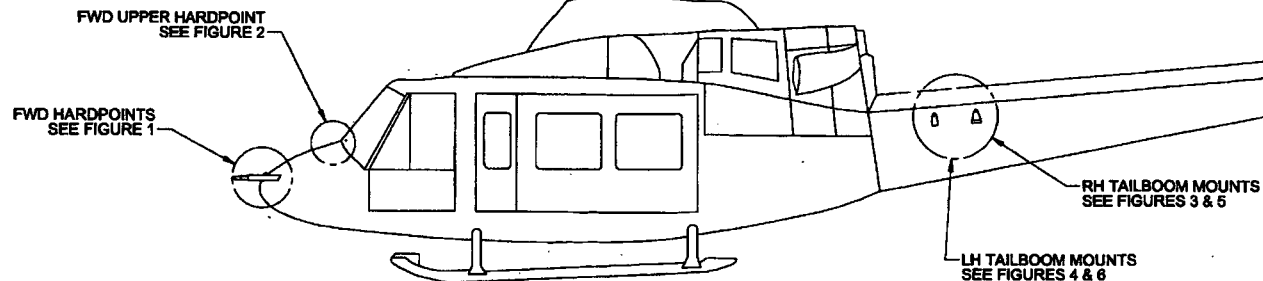
Required Qty: 2.00

Comments: IPP REV:A 13.11.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D412-786-013		Manufactured	No				Each	0.0000		2			DAS 6 9-89
D412-786-013									**	144559			DAS 28 9-89
Fwd Hardpoint Installation													
D412-786-025		Manufactured	No				Each	0.0000		2			DAS 6 9-89
D412-786-025									**	144560			DAS 28 9-89
Tailboom Mount													

MAY 03 2016

REFERENCE ONLY



D412-786-011/-021 HARDPOINT KIT

QTY -011	QTY -013	QTY -015	QTY -021	QTY -025	PART NUMBER	DESCRIPTION
X					D412-786-011	HARDPOINT KIT
1	X		1		D412-786-013	FWD HARDPOINT KIT
1		X			D412-786-015	TAILBOOM MOUNT KIT
			X		D412-786-021	HARDPOINT KIT
			1	X	D412-786-025	TAILBOOM MOUNT KIT
		1			D3866-041	TAILBOOM MOUNT
		2			D3868-043	TAILBOOM MOUNT
1					D3870-041	FWD LH HARDPOINT
1					D3870-042	FWD RH HARDPOINT
1					D3870-5	FWD UPPER HARDPOINT
1					D3871-1	DOUBLER
1					D3871-2	DOUBLER
			1		D4950-041	TAILBOOM MOUNT
			2		D4950-043	TAILBOOM MOUNT
10	12		.12		MS21042L3	NUT
8	12		<12		MS27039-1-11	SCREW
1					MS27039-1-12	SCREW
1					MS27039-1-14	SCREW
<10	24			24	NAS1149D0332J	WASHER

INSTALLATION	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
D412-786-011 HARDPOINT KIT	0.58 LBS 0.26 KG	164.67 IN 4.18 M	95.51 IN-LB 1.09 KG-M	-1.25 IN -0.03 M	-0.73 IN-LB -0.008 KG-M
D412-786-013 FWD HARDPOINT KIT	0.22 LBS 0.10 KG	-13.55 IN -0.34 M	-2.98 IN-LB -0.03 KG-M	2.36 IN 0.06 M	0.52 IN-LB 0.006 KG-M
D412-786-015 TAILBOOM MOUNT KIT	0.36 LBS 0.16 KG	273.58 IN 6.95 M	98.49 IN-LB 1.11 KG-M	-3.47 IN -0.08 M	-1.25 IN-LB -0.01 KG-M
D412-786-021 HARDPOINT KIT	0.64 LBS 0.29 KG	164.67 IN 4.18 M	105.39 IN-LB 1.21 KG-M	-1.25 IN -0.03 M	-0.98 IN-LB -0.01 KG-M
D412-786-025 TAILBOOM MOUNT KIT	0.42 LBS 0.19 KG	273.58 IN 6.95 M	114.90 IN-LB 1.32 KG-M	-3.47 IN -0.08 M	-1.46 IN-LB -0.02 KG-M

NOTES:

- 1) D412-786-011/-021 HARDPOINT KIT REQUIRED ON 412/412EP AIRCRAFT UTILIZING D412-695-011 BLADE FOLDING KIT WHERE WIRE STRIKE COMPATABILITY IS REQUIRED
- 2) D412-786-021 HARDPOINT KIT REQUIRED ON AIRCRAFT EQUIPPED WITH BLR TAILBOOM STRAKE KIT
- 3) TOUCH UP DRILLED HOLES WITH ALODINE PER THE AIRCRAFT MAINTENANCE MANUAL
- 4) TORQUE FASTENERS AS FOLLOWS: 10-32; 20-25 IN-LBS
- 5) PRIME AND PAINT HARDPOINTS TO MATCH AIRCRAFT PAINT SCHEME PER AIRCRAFT MAINTENANCE MANUAL

C	MODIFY D3870-5 INSTALLATION INSTRUCTION, ADD TO NOTE 2, SH 3 AND CLARIFY/CORRECT VIEW C-C (ZN A8-3, C3-3)	DB	14.04.28
B	ADD -021/-025 KITS, SHEETS 6 & 7	DB	13.10.17
A	NEW ISSUE	DB	09.01.14
REV	DESCRIPTION	BY	DATE
DESIGN	DB		
DRAWN	DB		
CHECKED	<i>[Signature]</i>		
MFG. APPR.	N/A		
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	14.04.28		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D412-786-1	REV. C SHEET 1 OF 1
TITLE HARDPOINT KIT INSTALL	SCALE NTS
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